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Action

General Session

Proposed Additions to Title 5 Regulations Pertaining to No Child Left Behind Authorizations

Executive Summary: This agenda item proposes a new name and outlines three options for the Commission to consider in establishing these proposed NCLB compliant authorizations.

Recommended Action: Staff recommends that the Commission adopt Option 1 and that the Commission approve the two additions to Title 5 of the California Code of Regulations for purpose of beginning the rulemaking file for submission to the Office of Administrative Law and scheduling a public hearing.

Presenter: Dale Janssen, Director, Certification, Assignment and Waivers Division

Proposed Additions to Title 5 Regulations Pertaining to No Child Left Behind Authorizations

Introduction

At the March 2004 Commission meeting, staff presented proposed additions to Title 5, California Code of Regulations, which would establish authorizations that would be compliant with the Highly Qualified Teacher requirement of the No Child Left Behind Act. The Commission directed staff to return at the May meeting with a new name for the authorizations and a proposal that would provide flexibility. This agenda item proposes a new name for the authorizations as well as outlines three options for the Commission to consider in establishing these NCLB compliant authorizations.

Background

Currently, the Commission issues two types of supplementary authorizations that may be added to multiple subject and single subject teaching credentials. The Commission has issued supplementary authorizations for single subject credentials since 1979 and multiple subject credentials since 1981. Introductory Supplementary Authorizations authorize the holder to teach the supplementary subject in grades 9 and below and Specific Supplementary Authorizations, which may only be added to single subject credentials, authorize teaching the specific subject in grades preschool, K-12 and classes organized primarily for adults.

In addition to the basic teaching credential, a supplementary authorization requires the completion of 20 semester or 10 upper division semester units, or equivalent quarter units, of coursework in the subject requested. Specific Supplementary Authorizations require the entire 10 or 20 unit requirement be in the specific subject requested. The Introductory Supplementary Authorizations require at least one course in specified areas within the 10 or 20 unit requirement. For example, in the area of English an individual must have at least one course in grammar, composition, and literature. An individual may also qualify by having a college major from a regionally accredited college or university in a subject directly related to the subject to be listed.

One of the requirements to be a "highly qualified" teacher as defined in NCLB, is subject matter competence. Since supplementary authorizations do not require an individual to hold a degree in the subject area of the supplementary authorization, those supplementary subject areas that fall under the NCLB core academic subject areas are not NCLB compliant unless the holder qualified by holding a degree in the subject area.

At the March 2004 Commission meeting staff was directed by the Commission to develop a new name for these NCLB compliant authorizations as well as present options the Commission can consider to establish these authorizations.

Proposed New Name

Staff is proposing the title of No Child Left Behind Introductory Authorizations and No Child Left Behind Specific Authorizations to identify the specific purpose of these authorizations. These authorizations will be listed on the credential as NCLB Introductory (Subject) and NCLB (Subject) such as NCLB Introductory Art and NCLB Geography.

Proposed Additions to Regulations for the NCLB Authorizations

There are two proposed sections of Title 5 to add the requirements and the authorizations for NCLB introductory and specific authorizations. First, staff is proposing to add Title 5 §80089.3 to define the NCLB introductory authorization with the elements summarized below. The Title 5 language is annotated to display the changes from the language proposed at the March meeting. Staff researched community college and four-year institution catalogs to determine the types of courses a candidate may take to complete either option one or option two. There are eight scenarios that are located in Appendix A. Each scenario includes the specific proposed NCLB authorization and either the State's content standards or a course description from either middle level or high school that the teacher could teach. Each scenario lists the coursework that could be taken to meet the requirements of either option one or option two.

Option One

Based on testimony from the K-12 community at the March meeting, option one includes language that requires 32 semester units of either lower or upper division semester units to qualify for the NCLB authorizations.

- Subsection (a) lists the appropriate prerequisite credential as a multiple or single subject credential. The definition for "equivalent quarter hours" adds clarity that quarter hours may also be used to meet the requirements.
- Subsection (a)(1) lists one of the options to meet the requirement by completion of a degree in the subject or related subject from a regionally accredited university. Completion of a degree in a subject area is one of the methods of verifying subject matter competence for NCLB subject matter compliance.
- Subsection (a)(2) lists one of the options to meet the requirements by completion of 32 semester units with coursework in content areas. It also requires three semester or 4 quarter units in each of the specific subjects, except for Science. Science requires six semester or eight quarter units in each of the four content areas. The reason for this requirement is to assure that the individual qualifying for this authorization has a

breadth of knowledge in each specific science discipline. Courses with the same content cannot be duplicated to count toward the 32 semester units. The requirements regarding the coursework grade and the definition for non-remedial coursework is also listed.

- Subsection (b) includes the list of introductory authorization subject areas that may be added to multiple or single subject credentials. Also included is a list of the content areas within each broad subject area. The subject areas that are proposed are the federal core academic subject areas in NCLB. The specific areas within each subject are aligned with the California K-12 content standards.
- Subsection (c) is the authorization for the NCLB introductory authorization, which is aligned with the authorization for introductory supplementary authorizations.

Title 5 80089.3. No Child Left Behind (NCLB) Introductory Degree Authorizations

- (a) The holder of a valid teaching credential specified in Education Code Section 44256(a) and (b) may have one or more of the subjects listed in subsection (b) added as an NCLB introductory degree authorization. Equivalent quarter hours may be used to meet the semester hour requirement. The candidate shall verify completion of either (1) or (2) below:
 - (1) a collegiate major from a regionally accredited college or university in a subject or in a subject directly related to each subject from subsection (b) to be listed, or
 - (2) 32 semester hours of non-remedial collegiate coursework in a subject listed in subsection (b). Included within the 32 semester hours is a minimum of three semester or four quarter hours in each of the specific content areas listed for the subject in subsection (b) except for Science which requires a minimum of six semester or eight quarter hours in each of the specific content areas listed. A grade of "C" or above in any course used to meet the provisions of this subsection shall be required. Non-remedial coursework for the purposes of this section shall be defined as coursework that is applicable toward a bachelor's degree or a higher degree at a regionally accredited college or university.
- (b) The following subjects may be added as NCLB introductory degree authorizations to a valid teaching credential specified in Education Code Section 44256(a) and (b):
 - (1) Art, with the content areas of art history including aesthetics and appreciation, two-dimensional art including drawing, painting, and printmaking, three-dimensional art including sculpture and ceramics, and photography/computer generated imagery;
 - (2) English with the content areas of grammar or language structure, advanced composition, speech, drama or theatre, and literature; (see Appendix A)

- (3) A Language Other Than English (specify) with the content areas of grammar, composition, culture, conversation, and literature;
- (4) Mathematics with the content areas of algebra, advanced algebra, geometry, probability or statistics, and development of the real number system or introduction to mathematics; (see Appendix A)
- (5) Music with the content areas of vocal music including the analysis of repertoire and literature appreciation for developing musicians, instrumental music including the analysis of repertoire and literature appreciation for developing musicians, aural musicianship, keyboard, music history including music appreciation, world music, conducting, and music theory;
- (6) Science with the content areas of biological sciences, chemistry, geosciences, and physics; and
- (7) Social Science with the content areas of United States history, California history, world history, world civilization or world cultures, physical geography, and United States government. (see Appendix A)
- (c) A subject specified in subsection (b) as an NCLB introductory degree authorization authorizes the holder to teach only the subject matter content typically included for that subject in curriculum guidelines and textbooks for study in grades 9 and below to students in preschool, kindergarten, grades 1-12, or in classes organized primarily for adults.

NOTE: Authority cited: Section 44225, Education Code. Reference: Sections 44225(e), 44256 and 44349, Education Code.

Second, staff is proposing to add Title 5 §80089.43 to define the NCLB specific authorization with the elements summarized below:

- Subsection (a) lists the appropriate prerequisite credential as a multiple or single subject credential. The definition for "equivalent quarter hours" adds clarity that quarter hours may also be used to meet the requirements.
- Subsection (a)(1) lists one of the options to meet the requirement by completion of a degree in the subject or related subject from a regionally accredited university. Completion of a degree in a subject area is one of the methods of verifying subject matter competence for NCLB subject matter compliance.
- Subsection (a)(2) lists one of the options to meet the requirements by completion of 32 semester units with coursework in content areas. The requirements regarding the coursework grade and the definition for non-remedial coursework is also listed.

- Subsection (b) includes the list of specific authorization subject areas that may be added to multiple or single subject credentials. Courses with the same content cannot be duplicated to count toward the 32 semester units. The subject areas proposed fall within the federal core academic subject areas for NCLB. There have been some deletions and some additions since the March meeting. Photography was added because the State Board has defined it to be within the NCLB Arts core subject area. History and Language Arts were deleted since these areas were too broad for a specific authorization. U.S. History and World History replaced History because they better reflect what is being taught in school. The Science disciplines have also been added.
- Subsection (c) is the authorization for the NCLB specific authorizations, which are aligned with the authorization for specific supplementary authorizations.

Title 5 80089.4. No Child Left Behind (NCLB) Specific Degree Authorizations.

- (a) The holder of a valid teaching credential specified in Education Code Section 44256(a) and (b) may have one or more of the subjects listed in subsection (b) added as an NCLB specific degree authorization. Equivalent quarter hours may be used to meet the semester hour requirement. The candidate shall verify completion of either (1) or (2) below:
 - (1) a collegiate major from a regionally accredited college or university in a subject directly related to each subject from subsection (b) to be listed, or
 - (2) 32 semester hours of non-remedial collegiate coursework directly related to the requested subject listed in subsection (b). A grade of "C" or above in any course used to meet the provisions of this subsection shall be required. Non-remedial coursework for the purposes of this section shall be defined as coursework that is applicable toward a bachelor's degree or a higher degree at a regionally accredited college or university.
- (b) The following subjects may be added as a NCLB specific degree authorization to a valid teaching credential specified in Education Code Section 44256(a) and (b):

<u>Art History/Appreciation</u> (see Appendix A)

Biological Sciences

Chemistry

Civics/Government

Dance

Drama/Theatre

Economics (social science) (see Appendix A)

English Composition

Geography

Geosciences

History

<u>Instrumental Music</u> (see Appendix A)

Language Arts

Literature

Photography

Physics (see Appendix A)

Plant Science

Three-Dimensional Art

Two-Dimensional Art

<u>U.S. History</u> (see Appendix A)

Vocal Music

World History

(c) A subject specified in subsection (b) as a NCLB specific degree authorization authorizes the holder to teach courses related to that in the specific subject in departmentalized classes in grades preschool and K-12 or in classes organized primarily for adults.

NOTE: Authority cited: Section 44225, Education Code. Reference: Sections 44225(e), 44256, Education Code.

Option Two

Based on testimony from the higher education community at the March meeting, option two includes language that requires sixteen upper division units to be a part of the NCLB authorizations.

• Subsection (a)(2) lists one of the options to meet the requirements by completion of 32 semester units with a minimum of sixteen upper division semester hours in coursework in content areas.

Title 5 80089.3. No Child Left Behind Introductory Degree Authorizations

- (a)(2) 32 semester hours of non-remedial collegiate coursework with a minimum of sixteen upper division semester hours in a subject listed in subsection (b). Included within the 32 semester hours is a minimum of three semester or four quarter hours in each of the specific content areas listed for the subject in subsection (b) except for Science which requires a minimum of six semester or eight quarter hours in each of the specific content areas listed. A grade of "C" or above in any course used to meet the provisions of this subsection shall be required. Non-remedial coursework for the purposes of this section shall be defined as coursework that is applicable toward a bachelor's degree or a higher degree at a regionally accredited college or university.
- Subsection (a)(2) lists one of the options to meet the requirements by completion of 32 semester units with a minimum of sixteen upper division semester hours in coursework in content areas.

Title 5 80089.4. No Child Left Behind Specific Degree Authorizations.

(a)(2) 32 semester hours of non-remedial collegiate coursework with a minimum of sixteen upper division semester hours directly related to the requested subject listed in subsection (b). A grade of "C" or above in any course used to meet the provisions of this subsection shall be required. Non-remedial coursework for the purposes of this section shall be defined as coursework that is applicable toward a bachelor's degree or a higher degree at a regionally accredited college or university.

Option Three

This option allows the Commission to determine the appropriate number of upper division semester hours from one to fifteen.

• Subsection (a)(2) lists one of the options to meet the requirements by completion of 32 semester units with the Commission specifying the number of upper division semester hours in coursework in content areas.

Title 5 80089.3. No Child Left Behind Introductory Degree Authorizations

- (a)(2) 32 semester hours of non-remedial collegiate coursework with a minimum of (Commission choice) upper division semester hours in a subject listed in subsection (b). Included within the 32 semester hours is a minimum of three semester or four quarter hours in each of the specific content areas listed for the subject in subsection (b) except for Science which requires a minimum of six semester or eight quarter hours in each of the specific content areas listed. A grade of "C" or above in any course used to meet the provisions of this subsection shall be required. Non-remedial coursework for the purposes of this section shall be defined as coursework that is applicable toward a bachelor's degree or a higher degree at a regionally accredited college or university.
- Subsection (a)(2) lists one of the options to meet the requirements by completion of 32 semester units with the Commission specifying the number of upper division semester hours in coursework in content areas.

Title 5 80089.4. No Child Left Behind Specific Degree Authorizations.

(a)(2) 32 semester hours of non-remedial collegiate coursework with a minimum of (Commission choice) upper division semester hours directly related to the requested subject listed in subsection (b). A grade of "C" or above in any course used to meet the provisions of this subsection shall be required. Non-remedial coursework for the purposes of this section shall be defined as coursework that is applicable toward a bachelor's degree or a higher degree at a regionally accredited college or university.

Staff Recommendation

Staff recommends that the Commission adopt Option 1 and that the Commission approve the two additions to Title 5 of the California Code of Regulations for the purpose of beginning the rulemaking file for submission to the Office of Administrative Law and scheduling a public hearing.

The rationale for this recommendation is based on:

- Education research
- Flexibility One size does not fit all
- Some authorizations already require upper division courses
- Inconsistency regarding upper division coursework
- Organized program required for a major
- Access issues for upper division coursework

Education Research

These NCLB authorizations are being proposed to offer school districts and teachers authorizations that are aligned with the highly qualified teacher requirements of NCLB. The objective of NCLB is to assure that teachers have the depth of knowledge to teach a specific subject. The overriding question is "How much subject knowledge is enough?" The Education Commission of the States (ECS) contracted with the Mid-continent Research for Education and Learning to ask this and other questions pertaining to teacher quality. In a research paper written by Patricia Lauer, Ph.D., entitled *A Secondary Analysis of a Review of Teacher Preparation Research* (September 2001), she reviewed over 57 research studies to answer a series of questions about teacher quality. One question was:

To what extent does subject knowledge contribute to the effectiveness of a teacher? Is there a significant advantage to having an advanced degree in the subject taught as opposed to a subject major? To having a subject major as opposed to a minor?

Her conclusion based on the research studies: "The degree to which teachers need subject knowledge is a complicated issue. The quantitative studies reviewed do not provide evidence that a major in a subject is necessary for effective teaching of that subject, although some number of courses is needed (Monk, 1994). In fact, there is evidence that a major in a subject is not a sufficient condition for effective teaching. Qualitative studies demonstrate that content courses by themselves do not result in the pedagogical knowledge needed to teach a subject area to K-12 students. Rather, both content courses and methods courses in a subject are necessary. Furthermore, a methods course will be most effective when its pedagogical approach matches that used in the student teaching placement."

Another ECS paper *Eight Questions on Teacher Preparation: What Does the Research Say?* (2003) authored by ECS Program Director Michael Allen answered the same question asked above. Mr. Allen found the following: "As to the advantage of having an undergraduate major in the subject taught, the research implies that some critical number

of courses is helpful, but it is inconclusive about the necessity of a subject major. In fact, the research suggests there may be a point after which additional courses are of minimal value. It would seem important to know the specific subjects a teacher is teaching – calculus, for example, as opposed to beginning algebra – to assess the adequacy of his or her content background. Ultimately, the question is not how many courses are important, or even whether a major is important, but which courses have an appreciable impact on a teacher's ability to teach specific subjects. And that level of specificity is simply lacking in the research."

Flexibility - One size does not fit all

Title 5 of the California Code of Regulations, Section 6100(b) states that 32 nonremedial semester units is what is required to be subject matter knowledgeable for NCLB in California. As mentioned above, staff researched community college and four-year institution catalogs to determine what coursework would be required to qualify for eight of the NCLB authorizations. The findings are included in Appendix A. The overall finding is one size does not fit all subjects, community colleges or colleges and universities. Each subject and each community college and four-year institution are unique in the way the students can take classes to meet the requirements of the proposed authorizations. In some instances there are subject areas that require upper division courses and in other instances all of the requirements can be met with lower division courses. Consequently, it is important to provide flexibility for a teacher to determine which courses to take to meet these proposed requirements. It is important to remember that these authorizations are an add-on to a credential and that the teacher already has completed subject matter in another area.

Some authorizations already require upper division courses

Under the proposed NCLB authorization requirements some of the specific subject requirements for the introductory authorization must be completed in an upper division course even though there may be no requirement for upper division courses. For example, NCLB Introductory English requires advanced composition as one of the specific subjects. The Introductory English chart in Appendix A displays advanced composition is only available as an upper division course at the University of San Diego. Staff also found that in some instances, sixteen or more upper division units would be needed to complete the 32-semester unit requirement for the proposed NCLB authorizations. For example, Physics has very few lower division courses so the candidate would need to take more than 16 upper division units to be able to meet the 32-semester unit requirement. Staff found a similar situation with U.S. History where the candidate must take 18 upper division units in order to meet the 32 unit requirement.

Inconsistency regarding upper division coursework

There also appears to be an inconsistency between upper division courses from college to college. For example, at Concordia University, Irvine, Calculus I & II are considered lower division coursework and Calculus III is considered upper division, yet at the University of California, Irvine all of the calculus courses are considered lower division. California State University, Stanislaus offers its California History class as an upper division course with one-year of college history as a prerequisite and Modesto Junior College offers California History as a lower division course.

Organized program required for a major

The testimony provided at the March 2004 Commission meeting by the higher education community stated that 16 upper division units are needed to be included in any authorization that would be considered to be equivalent to a major. This is appropriate for students preparing to complete a major at a specific university where there is an organized pattern of courses that must be taken. However, when a teacher is taking a collection of courses rather than an organized university program, the teacher should have the opportunity to determine which courses would provide the subject matter necessary to teach at the middle level or high school.

Access issues for upper division coursework

Another issue is prerequisites. Many of the upper division units require lower division courses. This can be a problem when the introductory authorizations specific subjects are met with lower division coursework because they can account for over half of the 32 units. For example, there are five subject areas for the proposed NCLB Introductory Social Science authorization: U.S. history, California history, world civilization or world cultures, physical geography, and U.S. government. All of these subjects must be completed as lower division courses because of upper division prerequisites. The specified coursework accounts for 18 semester units, over half of the required units for the authorization. In some instances upper division units are available only for students who are completing the major.

Summary

Staff found it difficult to require a specific number of upper division units when each discipline at each college and university is treated differently. The eight scenarios in Appendix A demonstrate the variety of courses one can take to meet the proposed requirements. Consequently, it appears to make sense that it should be left to the candidate to determine what is best for his or her situation, with the understanding that 32 semester units of coursework will provide the candidate a depth of knowledge to teach the subject associated with the NCLB authorization.

Appendix A

| Authorization for | Curriculum guidelines and textbooks for study in |
|-------------------------------|---------------------------------------------------|
| Introductory English | grades 9 and below for preschool, grades K-12 |
| | Word Analysis, Fluency, and Systematic Vocabulary |
| | Development |
| | Reading Comprehension |
| | Literary Response and Analysis |
| | Writing Strategies |
| | Writing Applications |
| | Written and Oral English Language Conventions |
| Content Standards for English | Listening and Speaking Strategies |
| in Grades 6-8 | Speaking Applications |
| Introductory English | <u> </u> |

Introductory English

The subjects in parenthesis are the specific subject areas required for the introductory authorization.

| Option 1 | | Units |
|-------------------|----------------------------------------------------------|-------|
| Option 1 | Lower Division Coursework | Units |
| | ENGL 51 (SDCC) – Basic Composition – Review | |
| | grammatical and mechanical structures to support the | |
| (grammar) | writing process of essays | 3 |
| | ENGL 101 (SDCC) – Composition and Literature – | |
| | Composition course using literature as a background for | |
| (composition) | improving writing skills | 3 |
| | ENGL 210 (SDCC) - American Literature – Survey of | |
| (literature) | American literature | 3 |
| | ENGL 215 (SDCC) - English Literature – Survey of British | |
| | literature | 3 |
| | ENGL 220 (SDCC– World Literature – Survey of world | |
| | literature from ancient work through the European | |
| | renaissance | 3 |
| | DRAM 105 (SDCC) - Introductory Study of the art and | |
| | literature of the theatre | 3 |
| | ENGL 22 (USD) – Poetry – An introduction to poetry | 3 |
| Supplementary | | |
| Authorization | Total | 21 |
| | COMM 3 (USD) – Public Speaking - Introduction to | |
| | several forms of public communication with emphasis on | |
| (speech, drama or | the development and practice of public speaking about | |
| theatre) | salient political, cultural, and social issues | 3 |
| | ENGL 28 (USD) – World Literature – Readings of | |
| | literature outside England and the United States | 3 |
| | English 36 (USD) – Creative Writing – Workshop on | |
| | imaginative writing with examples drawn from literature | 3 |

| | Upper Division Coursework | |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| | ENGL 175W (USD) – Advanced Composition – Workshop | |
| | course in writing of expository, description, and critical | |
| (advanced | prose | |
| composition) | | 3 |
| NCLB | | |
| Authorization | Total | 33 |
| Option 2 | | Units |
| • | Lower Division Coursework | |
| | ENGL 51 (SDCC) – Basic Composition – Review | |
| | grammatical and mechanical structures to support the | |
| (grammar) | writing process of essays | 3 |
| / | ENGL 101 (SDCC) – Composition and Literature – | |
| | Composition course using literature as a background for | |
| | improving writing skills | 3 |
| | ENGL 210 (SDCC) - American Literature – Survey of | |
| (literature) | American literature | 3 |
| (speech, drama or | DRAM 105 – (SDCC) - Introductory Study of the art and | |
| theatre) | literature of the theatre | 3 |
| · · · · · · · · · · · · · · · · · · · | COMM 3 (USD) – Public Speaking - Introduction to | |
| | several forms of public communication with emphasis on | |
| | the development and practice of public speaking about | |
| | salient political, cultural, and social issues | 3 |
| | Upper Division Coursework | |
| | ENGL 120 –(USD) Milton – Studies in the poetry and | |
| | prose of John Milton | 3 |
| | ENGL 175W (USD) – Advanced Composition – Workshop | |
| (advanced | course in writing of expository, description, and critical | |
| composition) | prose | 3 |
| | ENGL 190E (USD) – Development of the English | |
| | Language – Studies in the phonology, morphology, syntax | |
| | of the English language, and current theories of English | |
| | grammar | 3 |
| | THEA 111 (USD) – Theatre and Society – Study of theatre | - |
| | as an art form as well as the historical role of theatre in the | |
| | world | 3 |
| | ENGL 160 (USD) – Modern Poetry – A selection of poets | - |
| | from the early modernists to the present | 3 |
| | ENGL 116 (USD) – Introduction to Shakespeare – Studies | - |
| | in the plays and poems of William Shakespeare | 3 |
| NCLB | r r rys mas position of the state of the sta | _ |
| Authorization | | |
| with 16 upper | | |
| division units | Total | 33 |

NOTE: The coursework outlined in the chart above is from the San Diego City College catalog identified as SDCC and the University of San Diego catalog identified as USD.

Students must meet a specific English assessment skill level for courses at SDCC or complete two lower division English courses such as ENGL 51 and 56 to enroll in other English courses.

| Authorization for | Introductory | Curriculum guidelines and textbooks for study in | |
|--------------------------|-------------------|--------------------------------------------------|-------|
| Mathematics | | grades 9 and below for preschool, grades K-12 | |
| | | Number Sense | |
| | | Algebra and Functions | |
| | | Measurement and Geometry | |
| Content Standards | | Statistics, Data Analysis and Probability | |
| Mathematics Grade | es 6-8 | Mathematical Reasoning | |
| Introductory Mat | hematics | | |
| The subjects in pa | renthesis are th | e specific subject areas required for the | |
| introductory auth | orization. | | |
| | | | |
| Option 1 | | | Units |
| | | Lower Division Coursework | |
| | MATH 8 (IVC |) – College Algebra: equations and | |
| | inequalities, re | lations and functions, polynomial and | |
| | rational function | ons, exponential and logarithmic functions, | |
| (college algebra) | matrices and de | eterminants, sequences and series | 5 |
| | MATH 252 (IV | /C) - Plane Geometry: terminology and | |
| | theorems of pla | ane geometry, including congruence, | |
| | parallelism, sin | nilarity areas, volumes and coordinate | |
| (geometry) | geometry | | 5 |
| (Development of | MATH 9 (IVC |) – Finite Mathematics: linear functions, | |
| the Real Number | matrices and ve | ectors as they apply to linear programming | |
| System) | techniques; stu | dy of sets, logic and counting | 3 |
| | MATH 253 (IV | VC) (elective) – Intermediate Algebra: study | |
| | of the real num | ber system, polynomials and factoring, | |
| | systems of line | ar equations, rational numbers and | |
| | functions; quad | lratic equations and functions, exponential | |
| | logarithmic fur | nctions, and relations and systems | 5 |
| | | C) (elective) – Introduction to Statistics: | |
| | | ntral tendency, measures of dispersion, | |
| | measures of co | rrelation, laws of probability and statistical | |
| | estimation by o | confidence intervals and hypothesis testing. | 3 |
| Supplementary | | | |
| Authorization | | Total | 21 |
| TD1 'C" | 1 1 1 | 10 1 1 1 1 1 | |

The specific coursework has changed from the current supplementary introductory authorization to the NCLB introductory authorization, therefore some of the coursework from the current supplementary authorization cannot be used for the NCLB authorization.

| | Lower Division Coursework | |
|-----------------|----------------------------------------------------------------|-------|
| | MATH 8 (IVC) – College Algebra: equations and | |
| | inequalities, relations and functions, polynomial and | |
| | rational functions, exponential and logarithmic functions, | |
| (algebra) | matrices and determinants, sequences and series | 5 |
| (digeora) | MATH 253 (IVC) – Intermediate Algebra: study of the real | 3 |
| | number system, polynomials and factoring, systems of | |
| | linear equations, rational numbers and functions; quadratic | |
| (advanced | equations and functions, exponential logarithmic functions, | |
| algebra) | and relations and systems | 5 |
| uigeoru) | MATH 252 (IVC) - Plane Geometry: terminology and | |
| | theorems of plane geometry, including congruence, | |
| | parallelism, similarity areas, volumes and coordinate | |
| (geometry) | geometry | 5 |
| (geometry) | MATH 10 (IVC) – Introduction to Statistics: measures of | 3 |
| | central tendency, measures of dispersion, measures of | |
| (probability or | correlation, laws of probability and statistical estimation by | |
| statistics) | confidence intervals and hypothesis testing | 3 |
| (development of | MATH 9 (IVC) – Finite Mathematics: linear functions, | 3 |
| the real number | matrices and vectors as they apply to linear programming | |
| system or | techniques; study of sets, logic and counting | |
| introduction to | techniques, study of sets, logic and counting | |
| mathematics) | | 3 |
| | MATH 124 (IVC) (elective) – Trigonometry: circular and | |
| | trigonometric functions; graphing, conditional equations, | |
| | laws of sines and cosines, vectors, complex numbers, polar | |
| | coordinates | 3 |
| | MATH 2 (IVC) (elective) – Pre-Calculus: complex number | |
| | systems, elementary functions, polynomial, rational, | |
| | algebraic, exponential, logarithmic trigonometric functions; | |
| | polar coordinates and parametric equations; methods for | |
| | solving linear and non-linear systems of equations | 5 |
| | MATH 3A (IVC) (elective) – Analytic Geometry and | _ |
| | Calculus 1: analytic geometry; limits and continuity; and | |
| | differentiation and integration of algebraic and | |
| | trigonometric functions | 5 |
| NCLB | | |
| Authorization | Total | 34 |
| Option 2 | | Units |
| | Lower Division Coursework | |
| | MATH 8 (IVC) – College Algebra: equations and | |
| | inequalities, relations and functions, polynomial and | |
| | rational functions, exponential and logarithmic functions, | |
| (algebra) | matrices and determinants, sequences and series | 5 |

| | MATIL 252 (IVC) Intermediate Algebra, study of the real | |
|-----------------|----------------------------------------------------------------|-------|
| | MATH 253 (IVC) – Intermediate Algebra: study of the real | |
| | number system, polynomials and factoring, systems of | |
| (1 1 | linear equations, rational numbers and functions; quadratic | |
| (advanced | equations and functions, exponential logarithmic functions, | _ |
| algebra) | and relations and systems | 5 |
| | MATH 252 (IVC) - Plane Geometry: terminology and | |
| | theorems of plane geometry, including congruence, | |
| | parallelism, similarity areas, volumes and coordinate | |
| (geometry) | geometry | 5 |
| | MATH 10 (IVC) – Introduction to Statistics: measures of | |
| | central tendency, measures of dispersion, measures of | |
| (probability or | correlation, laws of probability and statistical estimation by | |
| statistics) | confidence intervals and hypothesis testing | 3 |
| | Upper Division Coursework | |
| | MATH 105A (UCI) – Numerical Analysis: floating point | |
| | arithmetic, roundoff; solving transcendental equations; | |
| | quadrature; linear systems, eigenvalues, power method | |
| | (Prerequisites: MATH 2A-B-J; some acquaintance with | |
| | computer programming) | 2 2/3 |
| | MATH 105B (UCI) – Numerical Analysis: Lagrange | |
| | interpolation, finite differences, splines, Pade | |
| | approximation; Gaussian quadrature; fourier series and | |
| | transforms (Prerequisite: MATH 105A) | 2 2/3 |
| | MATH 120A (UCI) – Introduction to Abstract Algebra: | |
| | Groups: axioms for group theory; permutation groups, | |
| | matrix groups, isomorphisms, homomorphism, quotient | |
| | groups (Prerequisite: MATH 3A) | 2 2/3 |
| | MATH 120B (UCI) – Introduction to Abstract Algebra: | |
| | Rings and Fields: basic properties of rings, ideals, quotient | |
| | rings; polynomial and matrix rings (Prerequisite: MATH | |
| | 120A) | 2 2/3 |
| | MATH 131A (UCI) – Mathematical Statistics: introduction | |
| | to data analysis; probability distributions, random variables, | |
| | moments, estimation; hypothesis testing and confidence | |
| | intervals; random simulations; simple linear regression | |
| | (Prerequisites: MATH 2A-B, 2J) | 2 2/3 |
| (development of | MATH 180 (UCI) - Introduction to Number Theory: the | |
| the real number | ring of integers, divisibility; prime numbers and | |
| system or | factorization; number-theoretic functions, perfect numbers | |
| introduction to | diophantine equations, quadratic residues (Prerequisites: | |
| mathematics) | MATH 2A-B, 2J) | 2 2/3 |
| NCLB | | |
| Authorization | | |
| with 16 upper | | |
| division units | Total | 34 |

Note: The coursework outlined in the chart above is from the Imperial Valley College catalog identified as IVC and the University of California, Irvine catalog identified as UCI

| Authorization for Social Science | Introductory | Curriculum guidelines and textbooks for | |
|----------------------------------|---------------------|------------------------------------------------------------------------------|-----------|
| Social Science | | study in grades 9 and below in grades I World History and Geography: Ancient | X-12 |
| | | Civilizations | |
| | | World History and Geography: Medieval | and |
| | | Early Modern Times | una |
| Content Standards | for Social Science | United States History and Geography: Gr | owth |
| Grades 6 to 8 | 201 200141 20101100 | and Conflict | 0 11 011 |
| Introductory Socia | al Science | W W 2 2 | |
| | | pecific subject areas required for the | |
| introductory auth | | | |
| Option 1 | | | Units |
| _ | Lo | wer Division Coursework | |
| | History 101 (MJC |) – History of the US Through | |
| (U.S. history) | Reconstruction – I | Pre-colonial to late 19 th century | 3 |
| (California | History 129 (MJC |) - History of California – Pre-colonial to | |
| history) | present times | | 3 |
| | |) - World Civilization - Major events in | |
| (world history) | world history from | 1 antiquity to the 16 th century | 3 |
| | Geography 102 (N | AJC) – Cultural Geography - Origins and | |
| (geography | global distribution | | 3 |
| | | 02 (MJC) – The Constitution and the | |
| | _ | ins - Emphasizing principles and program | |
| (U.S. | | ystem, power at national, state and local | |
| government) | levels | | 3 |
| | | JC) (elective) – Introduction to Sociology | |
| | • | social interaction, groups and societies | 3 |
| | 1 00 | (MJC) (elective) – Native People of | |
| | | Origins and adaptations made by | |
| | aboriginal cultures | s north of Mexico | 3 |
| Supplementary | | T. 4.1 | 21 |
| Authorization | 1 1 1 1 (| Total | 21 |
| | | from the current supplementary introductor | |
| | | y authorization, therefore some of the cours | |
| from the current su | • | ization cannot be used for the NCLB autho wer Division Coursework | rization. |
| | |) – History of the US Through | |
| (U.S. history) | | Pre-colonial to late 19 th century | 3 |
| (California | |) - History of California – Pre-colonial to | <i>J</i> |
| history) | present times | j - mistory of Camornia – Fre-colonial to | 3 |
| (world | |) - World Civilization - Major events in | <i>J</i> |
| civilization) | | antiquity to the 16 th century | 3 |
| CIVIIIZation) | world illstory from | rantiquity to the rollentury | J |

| (physical | Geography 101 (MJC) – Physical Geography – Physical | |
|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| geography) | elements of geography | 3 |
| geography) | Political Science 102 (MJC) – The Constitution and the | |
| | Rights of Americans - Emphasizing principles and program | |
| (U.S. | of a constitution system, power at national, state and local | |
| government) | levels | 3 |
| government | History 107 (MJC) – World Civilization from the 16 th | 3 |
| | Century – Comparative and interactive investigation related | |
| | to the development of the modern world | 3 |
| | Sociology 101 (MJC) (elective) – Introduction to Sociology | 3 |
| | | 3 |
| | - Study of human social interaction, groups and societies | 3 |
| | Anthropology 150 (MJC) (elective) – Native People of | |
| | North America - Origins and adaptations made by | 2 |
| | aboriginal cultures north of Mexico | 3 |
| | Sociology 125 (MJC) (elective) - Sociology of the Family – | |
| | Comparative and historical treat of the family | 3 |
| | Political Science 150 (MJC) (elective) – Women and | |
| | Politics – The status and role of women in American | |
| | politics | 3 |
| | Geography 105 (MJC) (elective) – Economic Geography – | |
| | Global distribution of economic activity | 3 |
| NCLB | | |
| | | |
| Authorization | Total | 33 |
| | | 33 Units |
| Authorization | Lower Division Coursework | |
| Authorization | Lower Division Coursework History 101 (MJC) – History of the US Through | |
| Authorization | Lower Division Coursework History 101 (MJC) – History of the US Through Reconstruction – Pre-colonial to late 19 th century | |
| Authorization Option 2 | Lower Division Coursework History 101 (MJC) – History of the US Through | Units |
| Authorization Option 2 (U.S. history) | Lower Division Coursework History 101 (MJC) – History of the US Through Reconstruction – Pre-colonial to late 19 th century History 129 (MJC) - History of California – Pre-colonial to present times | Units |
| Authorization Option 2 (U.S. history) (California | Lower Division Coursework History 101 (MJC) – History of the US Through Reconstruction – Pre-colonial to late 19 th century History 129 (MJC) - History of California – Pre-colonial to | Units 3 |
| Authorization Option 2 (U.S. history) (California history) | Lower Division Coursework History 101 (MJC) – History of the US Through Reconstruction – Pre-colonial to late 19 th century History 129 (MJC) - History of California – Pre-colonial to present times | Units 3 |
| Authorization Option 2 (U.S. history) (California history) (world | Lower Division Coursework History 101 (MJC) – History of the US Through Reconstruction – Pre-colonial to late 19 th century History 129 (MJC) - History of California – Pre-colonial to present times History 106 (MJC) - World Civilization - Major events in | Units 3 |
| Authorization Option 2 (U.S. history) (California history) (world civilization) | Lower Division Coursework History 101 (MJC) – History of the US Through Reconstruction – Pre-colonial to late 19 th century History 129 (MJC) - History of California – Pre-colonial to present times History 106 (MJC) - World Civilization - Major events in world history from antiquity to the 16 th century | Units 3 |
| Authorization Option 2 (U.S. history) (California history) (world civilization) (physical | Lower Division Coursework History 101 (MJC) – History of the US Through Reconstruction – Pre-colonial to late 19 th century History 129 (MJC) - History of California – Pre-colonial to present times History 106 (MJC) - World Civilization - Major events in world history from antiquity to the 16 th century Geography 101 (MJC) – Physical Geography – Physical | 3 3 3 |
| Authorization Option 2 (U.S. history) (California history) (world civilization) (physical | Lower Division Coursework History 101 (MJC) – History of the US Through Reconstruction – Pre-colonial to late 19 th century History 129 (MJC) - History of California – Pre-colonial to present times History 106 (MJC) - World Civilization - Major events in world history from antiquity to the 16 th century Geography 101 (MJC) – Physical Geography – Physical elements of geography Political science 102 (MJC) – The Constitution and the | 3 3 3 |
| Authorization Option 2 (U.S. history) (California history) (world civilization) (physical | Lower Division Coursework History 101 (MJC) – History of the US Through Reconstruction – Pre-colonial to late 19 th century History 129 (MJC) - History of California – Pre-colonial to present times History 106 (MJC) - World Civilization - Major events in world history from antiquity to the 16 th century Geography 101 (MJC) – Physical Geography – Physical elements of geography | 3 3 3 |
| Authorization Option 2 (U.S. history) (California history) (world civilization) (physical geography) | Lower Division Coursework History 101 (MJC) – History of the US Through Reconstruction – Pre-colonial to late 19 th century History 129 (MJC) - History of California – Pre-colonial to present times History 106 (MJC) - World Civilization - Major events in world history from antiquity to the 16 th century Geography 101 (MJC) – Physical Geography – Physical elements of geography Political science 102 (MJC) – The Constitution and the Rights of Americans - Emphasizing principles and program | 3 3 3 |
| Authorization Option 2 (U.S. history) (California history) (world civilization) (physical geography) (U.S. | Lower Division Coursework History 101 (MJC) – History of the US Through Reconstruction – Pre-colonial to late 19 th century History 129 (MJC) - History of California – Pre-colonial to present times History 106 (MJC) - World Civilization - Major events in world history from antiquity to the 16 th century Geography 101 (MJC) – Physical Geography – Physical elements of geography Political science 102 (MJC) – The Constitution and the Rights of Americans - Emphasizing principles and program of a constitution system, power at national, state and local levels | 3 3 3 |
| Authorization Option 2 (U.S. history) (California history) (world civilization) (physical geography) (U.S. | Lower Division Coursework History 101 (MJC) – History of the US Through Reconstruction – Pre-colonial to late 19 th century History 129 (MJC) - History of California – Pre-colonial to present times History 106 (MJC) - World Civilization - Major events in world history from antiquity to the 16 th century Geography 101 (MJC) – Physical Geography – Physical elements of geography Political science 102 (MJC) – The Constitution and the Rights of Americans - Emphasizing principles and program of a constitution system, power at national, state and local levels History 107 (MJC) – World Civilization from the 16 th | 3 3 3 |
| Authorization Option 2 (U.S. history) (California history) (world civilization) (physical geography) (U.S. | Lower Division Coursework History 101 (MJC) – History of the US Through Reconstruction – Pre-colonial to late 19 th century History 129 (MJC) - History of California – Pre-colonial to present times History 106 (MJC) - World Civilization - Major events in world history from antiquity to the 16 th century Geography 101 (MJC) – Physical Geography – Physical elements of geography Political science 102 (MJC) – The Constitution and the Rights of Americans - Emphasizing principles and program of a constitution system, power at national, state and local levels History 107 (MJC) – World Civilization from the 16 th Century – Comparative and interactive investigation related | 3 3 3 |
| Authorization Option 2 (U.S. history) (California history) (world civilization) (physical geography) (U.S. | Lower Division Coursework History 101 (MJC) – History of the US Through Reconstruction – Pre-colonial to late 19 th century History 129 (MJC) - History of California – Pre-colonial to present times History 106 (MJC) - World Civilization - Major events in world history from antiquity to the 16 th century Geography 101 (MJC) – Physical Geography – Physical elements of geography Political science 102 (MJC) – The Constitution and the Rights of Americans - Emphasizing principles and program of a constitution system, power at national, state and local levels History 107 (MJC) – World Civilization from the 16 th Century – Comparative and interactive investigation related to the development of the modern world | 3 3 3 3 |
| Authorization Option 2 (U.S. history) (California history) (world civilization) (physical geography) (U.S. | Lower Division Coursework History 101 (MJC) – History of the US Through Reconstruction – Pre-colonial to late 19 th century History 129 (MJC) - History of California – Pre-colonial to present times History 106 (MJC) - World Civilization - Major events in world history from antiquity to the 16 th century Geography 101 (MJC) – Physical Geography – Physical elements of geography Political science 102 (MJC) – The Constitution and the Rights of Americans - Emphasizing principles and program of a constitution system, power at national, state and local levels History 107 (MJC) – World Civilization from the 16 th Century – Comparative and interactive investigation related to the development of the modern world Upper Division Coursework | 3 3 3 3 |
| Authorization Option 2 (U.S. history) (California history) (world civilization) (physical geography) (U.S. | Lower Division Coursework History 101 (MJC) – History of the US Through Reconstruction – Pre-colonial to late 19 th century History 129 (MJC) - History of California – Pre-colonial to present times History 106 (MJC) - World Civilization - Major events in world history from antiquity to the 16 th century Geography 101 (MJC) – Physical Geography – Physical elements of geography Political science 102 (MJC) – The Constitution and the Rights of Americans - Emphasizing principles and program of a constitution system, power at national, state and local levels History 107 (MJC) – World Civilization from the 16 th Century – Comparative and interactive investigation related to the development of the modern world | 3 3 3 3 |

| with 16 upper division | Total | 36 |
|------------------------|-------------------------------------------------------------|----|
| Authorization | | |
| NCLB | | |
| | World – Hellenistic Age, Roman Republic and Empire | 3 |
| | History 3120 (CSUS) (elective) – Ancient Mediterranean | |
| | political and cultural process that shape California | 3 |
| | and Environments – Examines the natural, economic, | |
| | Geography 3340 (CSUS) (elective) – California Cultures | |
| | regions of the world | |
| | Elements and controls of weather and climate; climatic | 3 |
| | Geography 3100 (CSUS) (elective) – Climatology – | |
| | - Basic knowledge of religion in society | 3 |
| | Sociology 4230 (CSUS) (elective) – Sociology of Religion | |
| | Causes and consequences of socially structured inequalities | 3 |
| | Sociology 3310 (CSUS) (elective) - Social Inequalities – | |

Note: The coursework displayed in the chart above is from the Modesto Junior College catalog identified as MJC and the California State University, Stanislaus catalog identified as CSUS. CSU, Stanislaus upper division coursework generally has prerequisites that may or may not be covered in the six required courses. The required courses could not be taken at the upper division level.

| Authorization for A History/Appreciati | | |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| | This course is a survey and visual study of the history from the Stone Age to the present. Topics will include not limited to art and society, evaluating the art object, | but are |
| Art History | looking at modern art. | |
| Art History/Appre | ciation | • |
| Option 1 | | Units |
| | Lower Division Coursework | |
| | ART 101 (PC) - Survey of Art History – Survey of | |
| | architecture, sculpture, and painting from the prehistoric, | |
| | ancient, classical and medieval periods | 3 |
| | ART 102 (PC) – Survey of Art History – Survey of | |
| | painting, sculpture, and architecture of the Western | |
| | tradition from the 14 th to the 21 st century. | 3 |
| | ART 103 (PC) – Art Appreciation – Furthers the | |
| | understanding and appreciation of the visual arts. | 3 |
| | ART 105 (PC) – History of Asian Art – Survey covering | |
| | paintings, sculpture and architecture of Japan, China and | |
| | India | 3 |
| | ART 111 (PC) – History of Contemporary Art – Covers | |
| | major trends in art from 1900 to the present day | 3 |

| 1 | ART 137 (PC) - Architectural History I – Covers the | |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| | history of architecture from prehistory to the Middle Ages | 3 |
| | ART 138 (PC) - Architectural History II – Covers the | |
| | history of architecture from the Middle Ages to the Modern | |
| | period | 3 |
| Supplementary Authorization | Total | 21 |
| 1144410112441011 | ART 139 (PC) - Architectural History III – Covers the | |
| | Modern period of architecture | 3 |
| | ART 209 (CSULA) – Appreciation of Art Through World | |
| | Culture – Appreciation and understanding of the visual arts | |
| | in world culture | 2 2/3 |
| | ART 341 (CSULA) – American Landscape in Art – | |
| | Historical survey and analysis of the landscape and vision | |
| | of the U. S. in art and architecture | 2 2/3 |
| | ART 411 (CSULA) – Greek and Roman Art – Art of | |
| | Greece and the Etruscan influences | 2 2/3 |
| NCLB | | |
| Authorization | Total | 32 |
| Option 2 | | |
| | Lower Division Coursework | |
| | ART 101 (PC) - Survey of Art History – Survey of | |
| | architecture, sculpture, and painting from the prehistoric, | |
| | ancient, classical and medieval periods | 3 |
| | ART 102 (PC) – Survey of Art History – Survey of | |
| | painting, sculpture, and architecture of the Western | |
| | tradition from the 14 th to the 21 st century | 3 |
| | _ · · · · · · · · · · · · · · · · · · · | 3 |
| | ART 103 (PC) – Art Appreciation – Furthers the | 3 |
| | | 3 |
| | ART 103 (PC) – Art Appreciation – Furthers the | |
| | ART 103 (PC) – Art Appreciation – Furthers the understanding and appreciation of the visual arts. | |
| | ART 103 (PC) – Art Appreciation – Furthers the understanding and appreciation of the visual arts. ART 105 (PC) – History of Asian Art – Survey covering | |
| | ART 103 (PC) – Art Appreciation – Furthers the understanding and appreciation of the visual arts. ART 105 (PC) – History of Asian Art – Survey covering paintings, sculpture and architecture of Japan, China and India ART 111 (PC) – History of Contemporary Art – Covers | 3 |
| | ART 103 (PC) – Art Appreciation – Furthers the understanding and appreciation of the visual arts. ART 105 (PC) – History of Asian Art – Survey covering paintings, sculpture and architecture of Japan, China and India ART 111 (PC) – History of Contemporary Art – Covers major trends in art from 1900 to the present day | 3 |
| | ART 103 (PC) – Art Appreciation – Furthers the understanding and appreciation of the visual arts. ART 105 (PC) – History of Asian Art – Survey covering paintings, sculpture and architecture of Japan, China and India ART 111 (PC) – History of Contemporary Art – Covers major trends in art from 1900 to the present day ART 137 (PC) - Architectural History I – Covers the | 3 |
| | ART 103 (PC) – Art Appreciation – Furthers the understanding and appreciation of the visual arts. ART 105 (PC) – History of Asian Art – Survey covering paintings, sculpture and architecture of Japan, China and India ART 111 (PC) – History of Contemporary Art – Covers major trends in art from 1900 to the present day | 3 |
| | ART 103 (PC) – Art Appreciation – Furthers the understanding and appreciation of the visual arts. ART 105 (PC) – History of Asian Art – Survey covering paintings, sculpture and architecture of Japan, China and India ART 111 (PC) – History of Contemporary Art – Covers major trends in art from 1900 to the present day ART 137 (PC) - Architectural History I – Covers the history of architecture from prehistory to the Middle Ages Upper Division Coursework | 3 3 |
| | ART 103 (PC) – Art Appreciation – Furthers the understanding and appreciation of the visual arts. ART 105 (PC) – History of Asian Art – Survey covering paintings, sculpture and architecture of Japan, China and India ART 111 (PC) – History of Contemporary Art – Covers major trends in art from 1900 to the present day ART 137 (PC) - Architectural History I – Covers the history of architecture from prehistory to the Middle Ages Upper Division Coursework ART 209 (CSULA) – Appreciation of Art Through World | 3 3 |
| | ART 103 (PC) – Art Appreciation – Furthers the understanding and appreciation of the visual arts. ART 105 (PC) – History of Asian Art – Survey covering paintings, sculpture and architecture of Japan, China and India ART 111 (PC) – History of Contemporary Art – Covers major trends in art from 1900 to the present day ART 137 (PC) - Architectural History I – Covers the history of architecture from prehistory to the Middle Ages Upper Division Coursework ART 209 (CSULA) – Appreciation of Art Through World Culture – Appreciation and understanding of the visual arts | 3 3 3 |
| | ART 103 (PC) – Art Appreciation – Furthers the understanding and appreciation of the visual arts. ART 105 (PC) – History of Asian Art – Survey covering paintings, sculpture and architecture of Japan, China and India ART 111 (PC) – History of Contemporary Art – Covers major trends in art from 1900 to the present day ART 137 (PC) - Architectural History I – Covers the history of architecture from prehistory to the Middle Ages Upper Division Coursework ART 209 (CSULA) – Appreciation of Art Through World Culture – Appreciation and understanding of the visual arts in world culture | 3 3 |
| | ART 103 (PC) – Art Appreciation – Furthers the understanding and appreciation of the visual arts. ART 105 (PC) – History of Asian Art – Survey covering paintings, sculpture and architecture of Japan, China and India ART 111 (PC) – History of Contemporary Art – Covers major trends in art from 1900 to the present day ART 137 (PC) - Architectural History I – Covers the history of architecture from prehistory to the Middle Ages Upper Division Coursework ART 209 (CSULA) – Appreciation of Art Through World Culture – Appreciation and understanding of the visual arts in world culture ART 341 (CSULA) – American Landscape in Art – | 3 3 3 |
| | ART 103 (PC) – Art Appreciation – Furthers the understanding and appreciation of the visual arts. ART 105 (PC) – History of Asian Art – Survey covering paintings, sculpture and architecture of Japan, China and India ART 111 (PC) – History of Contemporary Art – Covers major trends in art from 1900 to the present day ART 137 (PC) - Architectural History I – Covers the history of architecture from prehistory to the Middle Ages Upper Division Coursework ART 209 (CSULA) – Appreciation of Art Through World Culture – Appreciation and understanding of the visual arts in world culture | 3 3 3 |

| | ART 406 – Ancient Near Eastern Art and Archaeology – | |
|----------------|--------------------------------------------------------------------|-------|
| | Principal monuments of architecture, sculpture, and the | |
| | applied arts of ancient Mesopotamia, Egypt, Crete and | |
| | Greece | 2 2/3 |
| | ART 411 (CSULA) – Greek and Roman Art – Art of | |
| | Greece and the Etruscan influences | 2 2/3 |
| | ART 416 (CSULA) – Medieval Art - Principal monuments | |
| | of Medieval architecture, sculpture and painting covering | |
| | the Celtic, Carolingian, Ottonian, Romanesque, and Gothic | |
| | periods | 2 2/3 |
| | ART 426 (CSULA) – Baroque Art – Art of Western | |
| | Europe from 16 th through late 17 th century | 2 2/3 |
| NCLB | | |
| Authorization | | |
| with 16 upper | | |
| division units | Total | 32 |

NOTE: The coursework outlined in the chart above is from the Pierce College catalog identified as PC and the California State University, Los Angeles catalog identified as CSULA.

| Authorization fo | r Economics | K-12 | |
|------------------|----------------|-------------------------------------------------|---------|
| | | A one-semester course that introduces the basic | |
| Economics | | principles of all economic systems | |
| | | This two-block course mirrors the standard coll | ege |
| | | curriculum found in the principles of Macro and | d Micro |
| Economics AP | | economics courses | |
| Economics | | | |
| Option 1 | | | Units |
| | | Lower Division Coursework | |
| | ECON 100 (| (SCC) – Introduction to Economics – | |
| | Introduces the | ne purpose, terminology and basic concepts of | |
| | economic th | eory | 3 |
| | ECON 302 (| (SCC) – Principles of Macroeconomics – | |
| | Describes th | e interaction among households, business, | |
| | government | and the foreign sectors of the economy | 3 |
| | ECON 304 (| (SCC) – Principles of Microeconomics – The | |
| | pricing and | allocation of resources under varying market | |
| | competitive | conditions are the focus of this course | 3 |
| | ECON 310 (| (SCC) – Economic Statistics – This course | |
| | | ollection, presentation, analysis, and | |
| | interpretatio | n of numerical data | 3 |
| | | (SCC) – Fundamentals of Investment | |
| | | t and Financial Markets – The course will | |
| | provide a blo | end of the traditional and modern approaches to | |
| | investment of | lecision making | 3 |

| | ECON 100A (SS)– Intermediate Macroeconomic Theory – | |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| | Analysis of the determinants of the aggregate level of | |
| | output, income, employment and prices | 3 |
| | ECON 100B (SS) – Intermediate Microeconomic Theory – | |
| | Analysis of household and firm behavior as the foundation | |
| | of supply and demand | 3 |
| Supplementary | or suppry and demand | 3 |
| Authorization | Total | 21 |
| Authorization | | 21 |
| | ECON 101 (SS)- History of Economic Thought – Analysis | |
| | of the development of economic theory from the | |
| | predecessors of Adam Smith through John Maynard | |
| | Keynes | 3 |
| | ECON 104 (SS) – Introduction to the United States | |
| | Economy – One semester survey of the principles of | |
| | economics, basic methods of economic analysis and their | |
| | application to public policy | 3 |
| | ECON 106 (SS) – Applied Problems in International | |
| | Economics – Analyzes the role of the United States in the | |
| | global economy | 3 |
| | ECON 110 (SS) – Cost Benefit Analysis – Examines the | |
| | rationale for government provision of goods and services | 3 |
| NCLB | | |
| Authorization | Total | 33 |
| | | |
| Option 2 | | Units |
| Option 2 | Lower Division Coursework | Units |
| Option 2 | Lower Division Coursework ECON 100 (SCC) – Introduction to Economics – | Units |
| Option 2 | ECON 100 (SCC) – Introduction to Economics – | Units |
| Option 2 | ECON 100 (SCC) – Introduction to Economics – Introduces the purpose, terminology and basic concepts of | |
| Option 2 | ECON 100 (SCC) – Introduction to Economics – Introduces the purpose, terminology and basic concepts of economic theory | Units 3 |
| Option 2 | ECON 100 (SCC) – Introduction to Economics – Introduces the purpose, terminology and basic concepts of economic theory ECON 302 (SCC) – Principles of Macroeconomics – | |
| Option 2 | ECON 100 (SCC) – Introduction to Economics – Introduces the purpose, terminology and basic concepts of economic theory ECON 302 (SCC) – Principles of Macroeconomics – Describes the interaction among households, business, | 3 |
| Option 2 | ECON 100 (SCC) – Introduction to Economics – Introduces the purpose, terminology and basic concepts of economic theory ECON 302 (SCC) – Principles of Macroeconomics – Describes the interaction among households, business, government and the foreign sectors of the economy | |
| Option 2 | ECON 100 (SCC) – Introduction to Economics – Introduces the purpose, terminology and basic concepts of economic theory ECON 302 (SCC) – Principles of Macroeconomics – Describes the interaction among households, business, government and the foreign sectors of the economy ECON 304 (SCC) – Principles of Microeconomics – The | 3 |
| Option 2 | ECON 100 (SCC) – Introduction to Economics – Introduces the purpose, terminology and basic concepts of economic theory ECON 302 (SCC) – Principles of Macroeconomics – Describes the interaction among households, business, government and the foreign sectors of the economy ECON 304 (SCC) – Principles of Microeconomics – The pricing and allocation of resources under varying market | 3 |
| Option 2 | ECON 100 (SCC) – Introduction to Economics – Introduces the purpose, terminology and basic concepts of economic theory ECON 302 (SCC) – Principles of Macroeconomics – Describes the interaction among households, business, government and the foreign sectors of the economy ECON 304 (SCC) – Principles of Microeconomics – The pricing and allocation of resources under varying market competitive conditions are the focus of this course | 3 |
| Option 2 | ECON 100 (SCC) – Introduction to Economics – Introduces the purpose, terminology and basic concepts of economic theory ECON 302 (SCC) – Principles of Macroeconomics – Describes the interaction among households, business, government and the foreign sectors of the economy ECON 304 (SCC) – Principles of Microeconomics – The pricing and allocation of resources under varying market competitive conditions are the focus of this course ECON 310 (SCC) – Economic Statistics – This course | 3 |
| Option 2 | ECON 100 (SCC) – Introduction to Economics – Introduces the purpose, terminology and basic concepts of economic theory ECON 302 (SCC) – Principles of Macroeconomics – Describes the interaction among households, business, government and the foreign sectors of the economy ECON 304 (SCC) – Principles of Microeconomics – The pricing and allocation of resources under varying market competitive conditions are the focus of this course ECON 310 (SCC) – Economic Statistics – This course covers the collection, presentation, analysis, and | 3 3 |
| Option 2 | ECON 100 (SCC) – Introduction to Economics – Introduces the purpose, terminology and basic concepts of economic theory ECON 302 (SCC) – Principles of Macroeconomics – Describes the interaction among households, business, government and the foreign sectors of the economy ECON 304 (SCC) – Principles of Microeconomics – The pricing and allocation of resources under varying market competitive conditions are the focus of this course ECON 310 (SCC) – Economic Statistics – This course covers the collection, presentation, analysis, and interpretation of numerical data | 3 |
| Option 2 | ECON 100 (SCC) – Introduction to Economics – Introduces the purpose, terminology and basic concepts of economic theory ECON 302 (SCC) – Principles of Macroeconomics – Describes the interaction among households, business, government and the foreign sectors of the economy ECON 304 (SCC) – Principles of Microeconomics – The pricing and allocation of resources under varying market competitive conditions are the focus of this course ECON 310 (SCC) – Economic Statistics – This course covers the collection, presentation, analysis, and interpretation of numerical data ECON 330 (SCC) – Fundamentals of Investment | 3 3 |
| Option 2 | ECON 100 (SCC) – Introduction to Economics – Introduces the purpose, terminology and basic concepts of economic theory ECON 302 (SCC) – Principles of Macroeconomics – Describes the interaction among households, business, government and the foreign sectors of the economy ECON 304 (SCC) – Principles of Microeconomics – The pricing and allocation of resources under varying market competitive conditions are the focus of this course ECON 310 (SCC) – Economic Statistics – This course covers the collection, presentation, analysis, and interpretation of numerical data ECON 330 (SCC) – Fundamentals of Investment Management and Financial Markets – The course will | 3 3 |
| Option 2 | ECON 100 (SCC) – Introduction to Economics – Introduces the purpose, terminology and basic concepts of economic theory ECON 302 (SCC) – Principles of Macroeconomics – Describes the interaction among households, business, government and the foreign sectors of the economy ECON 304 (SCC) – Principles of Microeconomics – The pricing and allocation of resources under varying market competitive conditions are the focus of this course ECON 310 (SCC) – Economic Statistics – This course covers the collection, presentation, analysis, and interpretation of numerical data ECON 330 (SCC) – Fundamentals of Investment Management and Financial Markets – The course will provide a blend of the traditional and modern approaches to | 3 3 3 |
| Option 2 | ECON 100 (SCC) – Introduction to Economics – Introduces the purpose, terminology and basic concepts of economic theory ECON 302 (SCC) – Principles of Macroeconomics – Describes the interaction among households, business, government and the foreign sectors of the economy ECON 304 (SCC) – Principles of Microeconomics – The pricing and allocation of resources under varying market competitive conditions are the focus of this course ECON 310 (SCC) – Economic Statistics – This course covers the collection, presentation, analysis, and interpretation of numerical data ECON 330 (SCC) – Fundamentals of Investment Management and Financial Markets – The course will provide a blend of the traditional and modern approaches to investment decision making | 3 3 |
| Option 2 | ECON 100 (SCC) – Introduction to Economics – Introduces the purpose, terminology and basic concepts of economic theory ECON 302 (SCC) – Principles of Macroeconomics – Describes the interaction among households, business, government and the foreign sectors of the economy ECON 304 (SCC) – Principles of Microeconomics – The pricing and allocation of resources under varying market competitive conditions are the focus of this course ECON 310 (SCC) – Economic Statistics – This course covers the collection, presentation, analysis, and interpretation of numerical data ECON 330 (SCC) – Fundamentals of Investment Management and Financial Markets – The course will provide a blend of the traditional and modern approaches to investment decision making Upper Division Coursework | 3 3 3 |
| Option 2 | ECON 100 (SCC) – Introduction to Economics – Introduces the purpose, terminology and basic concepts of economic theory ECON 302 (SCC) – Principles of Macroeconomics – Describes the interaction among households, business, government and the foreign sectors of the economy ECON 304 (SCC) – Principles of Microeconomics – The pricing and allocation of resources under varying market competitive conditions are the focus of this course ECON 310 (SCC) – Economic Statistics – This course covers the collection, presentation, analysis, and interpretation of numerical data ECON 330 (SCC) – Fundamentals of Investment Management and Financial Markets – The course will provide a blend of the traditional and modern approaches to investment decision making | 3 3 3 |
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| Option 2 | ECON 100 (SCC) – Introduction to Economics – Introduces the purpose, terminology and basic concepts of economic theory ECON 302 (SCC) – Principles of Macroeconomics – Describes the interaction among households, business, government and the foreign sectors of the economy ECON 304 (SCC) – Principles of Microeconomics – The pricing and allocation of resources under varying market competitive conditions are the focus of this course ECON 310 (SCC) – Economic Statistics – This course covers the collection, presentation, analysis, and interpretation of numerical data ECON 330 (SCC) – Fundamentals of Investment Management and Financial Markets – The course will provide a blend of the traditional and modern approaches to investment decision making Upper Division Coursework ECON 200A (SS) – Advanced Macroeconomic Theory – | 3 3 3 |

| NCLB Authorization with 16 upper division units | Total | 32 |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------|----|
| | ECON 299 (SS) – Special Problems | 2 |
| | economy | 3 |
| | relate to full employment and stability of the national | |
| | the policies of central bank and fiscal authorities as they | |
| | ECON 238 (SS) – Monetary and Fiscal Policy – Analyzes | 3 |
| | allocation and distribution effects of government expenditures and taxation Prerequisite: ECON 200B | 3 |
| | ECON 230 (SS) - Public Finance – An analysis of the | |
| | 200A, ECON 200B | 3 |
| | capital and general equilibrium - Prerequisite: ECON | |
| | Analyzes dynamic models of growth, technological change, | |
| | ECON 200C (SS) – Advanced Economic Theory – | |
| | Theories of the consumer, producer and market structure | 3 |
| | ECON 200B (SS) – Advanced Microeconomic Theory – | |

Note: The coursework outlined in the chart above is from the Sacramento City College catalog identified as SCC and the California State University, Sacramento catalog identified as SS.

| Authorization for | Instrumental | | |
|-------------------|---------------|------------------------------------------------|-----------|
| Music | | K-12 | |
| | | Class is designed to introduce students to par | ticipate |
| | | in an instrumental ensemble. Study music lit | erature |
| | | through band methods and sheet music comp | osed for |
| | | beginning concert band. Students explore the | e role of |
| | | performing arts in culture and human history. | |
| | | Instruments include all of the varieties found | within |
| Beginning Band A/ | В | the brass, woodwind and percussion families. | |
| Instrumental Musi | ic | | |
| Option 1 | | | Units |
| | | Lower Division Coursework | |
| | Music 012 (SJ | CC) - Sound Design I – basic elements of | |
| | sound | | 1 |
| | Music 012B (S | SJCC) – Sound Design II – concepts to | |
| | contemporary | composition | 1 |
| | Music 014 (SJ | CC) – Musician's Workshop music rehearsal | |
| | process | _ | 3 |
| | Music 099 (SJ | CC) – Introductory Music | 3 |
| | Music 010A (S | SJCC) – Theory and Aural Skills (scales) | 4 |
| | Music 010B (S | SJCC) - Theory and Aural Skills (chords) | 4 |
| | Music 020 (SJ | CC) - Class Piano | 1 |
| | Music 025 (SJ | CC) - Class Strings | 1 |

| | Music 026 (SJCC) - Class Guitar | 1 |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| | Music 040 (SJCC) - College Orchestra | 1.5 |
| Supplementary | With the control of t | 1.3 |
| Authorization | Total | 20.5 |
| 1 tutiloi ization | 1 otal | Units |
| | Music 044 (SJCC) - Concert Band | 1.5 |
| | Music 039 (SJCC) - Chamber Music | 1.5 |
| | Music 059A (SJCC) - Introduction to Chamber Music | 1.5 |
| | -fundamentals of ensemble playing | 1.5 |
| | Music 059B (SJCC) - Introduction to Chamber Music | 1.5 |
| | -development of technical skills | 1.5 |
| | Music 027 (SJCC) – Class Percussion | 1 |
| | Music 028 (SJCC) – Class Guitar | 1 |
| | Music 050A (SJCC) – Beginning Piano | 1 |
| | Music 050B (SJCC) - Beginning Piano | 1 |
| | Music 054A (SJCC) - Beginning France | 1 |
| | Music 054B (SJCC) - Beginning Brass | 1 |
| NCLB | With the court (Sice) - Beginning Blass | 1 |
| Authorization | Total | 32 |
| Option 2 | 1 Otal | Units |
| Option 2 | Lower Division Courses | Cilits |
| | Music 012 (SJCC) - Sound Design I – basic elements of | |
| | sound | 1 |
| | Music 012B (SJCC) – Sound Design II – concepts to | |
| | contemporary composition | 1 |
| | Music 040 (SJCC) - College Orchestra | 1.5 |
| | Music 044 (SJCC) - Concert Band | 1.5 |
| | Music 039 (SJCC) - Chamber Music | 1.5 |
| | Music 059A (SJCC) - Introduction to Chamber Music | |
| | -fundamentals of ensemble playing | 1.5 |
| | Music 059B (SJCC) - Introduction to Chamber Music | |
| | -development of technical skills | 1.5 |
| | Music 044 (SJCC) - Concert Band | 1.5 |
| | Music 027 (SJCC) – Class Percussion | 1 |
| | Music 028 (SJCC) – Class Guitar | 1 |
| | Music 050A (SJCC) – Beginning Piano | 1 |
| | Music 050A (SJCC) – Beginning Piano | 1 |
| | Music 054A (SJCC) - Beginning Brass | 1 |
| | Upper Division Courses | |
| | Music 106 (HNC) – Advanced Theory – Introduction | |
| | chromatic language | 3 |
| | Music 133 (HNC) – Literature of Major Instrument/Voice | |
| | – for instruments other than piano | 3 |
| | Music 134A (HNC) - Keyboard Literature Baroque to | |
| | Schubert for the piano | 2 |

| | Music 134B (HNC) - Keyboard Literature Romantic Era | |
|------------------|-------------------------------------------------------|----|
| | through the present for the piano | 2 |
| | Music 152 (HNC) - Instrumental Pedagogy – Principles, | |
| | procedure, methods and materials | 3 |
| | Music 180 (HNC) - Instrumental Conducting | 2 |
| | Music 190A (HNC) - Recital | 1 |
| | Subtotal | 16 |
| NCLB | | |
| Authorization 32 | | |
| units - 16 upper | | |
| division units | Total | 32 |

Note: The coursework displayed in the chart above is from the San Jose City College catalog identified as SJCC and Holy Names College catalog identified as HNC.

| Authorization for | Physics | K-12 | |
|--------------------------|-----------|------------------------------------------------------|--------------|
| | | A one-semester course for non-science majors. Th | e focus |
| | | is on concepts in physics such as Newton's Laws o | \mathbf{f} |
| Conceptual Physics | | Motion | |
| | | Physics is a yearlong laboratory course that include | es topics |
| Physics CP | | such as motion, forces, vectors etc. | |
| | | Advanced Placement Physics is an intensive and | |
| | | accelerated physics program designed for students | seeking |
| Physics AP | | additional challenge and preparation for college | |
| Physics | | | |
| Option 1 | | | Units |
| | | Lower Division Coursework | |
| | | 01 (SBCC) Conceptual Physics – Concept- | |
| | | non-mathematical course in general physics | 3 |
| | PHYS 1 | 01L (SBCC) – Conceptual Physics Lab | 1 |
| | | 04 (SBCC) – History & Philosophy of the Great | |
| | | Physics – History and development of physical | |
| | | m the early Greeks to contemporary ideas of | |
| | | and quantum theory | 3 |
| | | 05 (SBCC) – General Physics – Statics and | |
| | _ | s of particles and rigid bodies | 4 |
| | | 06 (SBCC) – General Physics – Electricity, | |
| | magnetis | sm, optics, relativity, atomic and nuclear physics | 4 |
| | | Upper Division Coursework | |
| | | 00 A (UCSB) – Methods of Theoretical Physics – | |
| | | atical methods in physics | 2 |
| | | 00 B (UCSB) - Methods of Theoretical Physics – | |
| | | atical methods in physics | 2 |
| | | 05 A (UCSB) – Classical Mechanics – Dynamics | |
| | of a part | icle and systems of particles | 2 |
| Supplementary | | | |
| Authorization | | | 21 |

| Г | DIMIG 105 D (LIGGD) C1 ' 134 1 ' D ' | 1 |
|---------------|------------------------------------------------------------------------------------------------|-------|
| | PHYS 105 B (UCSB) – Classical Mechanics – Dynamics | |
| | of a particle and systems of particles | 2 |
| | PHYS 106 (UCSB) – Nonlinear Phenomena – An | |
| | introduction to nonlinear phenomena | 2 2/3 |
| | PHYS 110 A (UCSB) – Electromagnetism – Electrostatics, | |
| | magnetostatics, electric and magnetic properties of | |
| | materials | 2 2/3 |
| | PHYS 110 B (UCSB) – Electromagnetism – Electrostatics, | |
| | magnetostatics, electric and magnetic properties of | |
| | materials | 2 2/3 |
| | PHYS 119 A (UCSB) – Thermal and Statistical Physics – | |
| | Thermodynamics: three laws of thermodynamics | 2 |
| NCLB | | |
| Authorization | Total | 33 |
| Option 2 | | Units |
| - F | Lower Division Coursework | |
| | PHYS 101 (SBCC) - Conceptual Physics – Concept- | |
| | oriented non-mathematical course in general physics | 3 |
| | PHYS 101L (SBCC) – Conceptual Physics Lab | 1 |
| | PHYS 104 (SBCC) – Conceptual Filysics Lab PHYS 104 (SBCC) – History & Philosophy of the Great | 1 |
| | Ideas of Physics – History and development of physical | |
| | | |
| | ideas from the early Greeks to contemporary ideas of | |
| | relativity and quantum theory | 3 |
| | PHYS 105 (SBCC) – General Physics – Statics and | 1 |
| | dynamics of particles and rigid bodies | 4 |
| | PHYS 106 (SBCC) – General Physics – Electricity, | 4 |
| | magnetism, optics, relativity, atomic and nuclear physics | 4 |
| | Upper Division Coursework | |
| | PHYS 100 A (UCSB) – Methods of Theoretical Physics – | |
| | Mathematical methods in physics | 2 |
| | PHYS 100 B (UCSB) - Methods of Theoretical Physics – | |
| | Mathematical methods in physics | 2 |
| | PHYS 105 A (UCSB) – Classical Mechanics – Dynamics | |
| | of a particle and systems of particles | 2 |
| | PHYS 105 B (UCSB) – Classical Mechanics – Dynamics | |
| | of a particle and systems of particles | 2 |
| | PHYS 106 (UCSB) – Nonlinear Phenomena – An | |
| | introduction to nonlinear phenomena | 2 2/3 |
| | PHYS 110 A (UCSB) – Electromagnetism – Electrostatics, | |
| | magnetostatics, electric and magnetic properties of | |
| | materials | 2 2/3 |
| | PHYS 110 B (UCSB) – Electromagnetism – Electrostatics, | |
| | magnetostatics, electric and magnetic properties of | |
| | materials | 2 2/3 |
| | PHYS 119 A (UCSB) – Thermal and Statistical Physics – | |
| | Thermodynamics: three laws of thermodynamics | 2 |
| | 1 | |

| NCLB | | |
|----------------|-------|----|
| Authorization | | |
| with 16 upper | | |
| division units | Total | 33 |

Note: The coursework displayed in the chart above is from the Santa Barbara City College catalog identified as SBCC and the University of California, Santa Barbara catalog identified as UCSB.

| U.S. History Authorization | | K – 12 | |
|----------------------------|--------------|-----------------------------------------------------------------|----------|
| | | Review of United States history from the nation' | |
| | | beginnings to the start of the 20 th century (1900 A | |
| | | to the Present). An in-depth investigation of hist | orical |
| | | events and periods, the fostering of multicultural | |
| | | awareness, the recognition of ethical, civic and | |
| | | democratic values present in American history (i | .e.: the |
| | | Progressive Era, the Jazz Age, world wars and co | old |
| U.S. History | | wars, depression, civil rights, Watergate). | |
| U.S. History | | | |
| Option 1 | | | Units |
| | | Lower Division Coursework | |
| | HIST 6 (CI | R) - The Vietnam War: historical background of | |
| | | between 1954 and 1975; legacy of this war as it | |
| | affected ret | urning veterans and how it shapes our foreign | |
| | policy toda | | 3 |
| | | R) – U.S. History to 1877: exploration in the | |
| | | he United States from the original inhabitants of | |
| | the North A | American continent to the end of the | |
| | | tion period after the American Civil War | 3 |
| | HIST 9 (CI | R) – U. S. History Since 1877: history of the | |
| | United Stat | es from the end of the Reconstruction period | |
| | after the Ci | vil War to the present | 3 |
| | HIST 11 (C | CR) – History of Women in America: Pre- | |
| | Contact 18 | 77: study of the social, cultural, political, and | |
| | | levelopments in the United States from the | |
| | | of the American woman from the period prior | |
| | | n contact through the end of Reconstruction | 3 |
| | | CR) – History of Women in America: 1877 | |
| | | tudy of the social, cultural, political, and | |
| | economic d | levelopments in the United States from the | |
| | | of the American woman, from the end of | |
| | Reconstruc | tion to the present day | 3 |
| | | Upper Division Coursework | |
| | | HSU) – The Era of World War I: setting and | |
| | * | nt; social, economic, and political changes | |
| | wrought by | the war | 3 |

| | HIST 301 (HSU) – The Era of World War II: setting and | |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| | development; social, economic, and political impact of total | |
| | war upon modern society | 3 |
| Supplementary | The of the define states | |
| Authorization | | 21 |
| | HIST (HSU) - 305 The American West, 1763-1900: diverse | |
| | American peoples and their frontier experiences between | |
| | the Appalachians and the Pacific Coast | 3 |
| | HIST 369 (HSU) – Age of Jefferson & Jackson: battles | |
| | over constitutional interpretations from 1787 to 1830s; | |
| | development of political parties, social and economic | |
| | reforms, states' rights | 3 |
| | HIST 372 (HSU) – Rise of Modern America, 1877 – 1929: | |
| | industrial and urban growth; rise of big business and big | |
| | government; US as a world power | 3 |
| | HIST 374 (HSU) – Contemporary America, 1929 to the | - |
| | Present: impact of depression and war; economic growth | |
| | and political conflict; emergence of US as a superpower | |
| | and affluent society | 3 |
| NCLB | , | |
| Authorization | Total | 33 |
| Option 2 | | Units |
| ~ Puon = | | C 11100 |
| - priori | Lower Division Coursework | 0 11105 |
| - Pron 2 | | |
| | Lower Division Coursework HIST 6 (CR) - The Vietnam War: historical background of the events between 1954 and 1975; legacy of this war as it | <u> </u> |
| | HIST 6 (CR) - The Vietnam War: historical background of | |
| | HIST 6 (CR) - The Vietnam War: historical background of the events between 1954 and 1975; legacy of this war as it | 3 |
| | HIST 6 (CR) - The Vietnam War: historical background of the events between 1954 and 1975; legacy of this war as it affected returning veterans and how it shapes our foreign | |
| | HIST 6 (CR) - The Vietnam War: historical background of the events between 1954 and 1975; legacy of this war as it affected returning veterans and how it shapes our foreign policy today | |
| | HIST 6 (CR) - The Vietnam War: historical background of the events between 1954 and 1975; legacy of this war as it affected returning veterans and how it shapes our foreign policy today HIST 8 (CR) – U.S. History to 1877: exploration in the | |
| | HIST 6 (CR) - The Vietnam War: historical background of the events between 1954 and 1975; legacy of this war as it affected returning veterans and how it shapes our foreign policy today HIST 8 (CR) – U.S. History to 1877: exploration in the history of the United States from the original inhabitants of the North American continent to the end of the Reconstruction period after the American Civil War | |
| | HIST 6 (CR) - The Vietnam War: historical background of the events between 1954 and 1975; legacy of this war as it affected returning veterans and how it shapes our foreign policy today HIST 8 (CR) – U.S. History to 1877: exploration in the history of the United States from the original inhabitants of the North American continent to the end of the Reconstruction period after the American Civil War HIST 9 (CR) – U. S. History Since 1877: history of the | 3 |
| | HIST 6 (CR) - The Vietnam War: historical background of the events between 1954 and 1975; legacy of this war as it affected returning veterans and how it shapes our foreign policy today HIST 8 (CR) – U.S. History to 1877: exploration in the history of the United States from the original inhabitants of the North American continent to the end of the Reconstruction period after the American Civil War HIST 9 (CR) – U. S. History Since 1877: history of the United States from the end of the Reconstruction period | 3 |
| | HIST 6 (CR) - The Vietnam War: historical background of the events between 1954 and 1975; legacy of this war as it affected returning veterans and how it shapes our foreign policy today HIST 8 (CR) – U.S. History to 1877: exploration in the history of the United States from the original inhabitants of the North American continent to the end of the Reconstruction period after the American Civil War HIST 9 (CR) – U. S. History Since 1877: history of the United States from the end of the Reconstruction period after the Civil War to the present | 3 |
| | HIST 6 (CR) - The Vietnam War: historical background of the events between 1954 and 1975; legacy of this war as it affected returning veterans and how it shapes our foreign policy today HIST 8 (CR) – U.S. History to 1877: exploration in the history of the United States from the original inhabitants of the North American continent to the end of the Reconstruction period after the American Civil War HIST 9 (CR) – U. S. History Since 1877: history of the United States from the end of the Reconstruction period after the Civil War to the present HIST 11 (CR) – History of Women in America: Pre- | 3 |
| | HIST 6 (CR) - The Vietnam War: historical background of the events between 1954 and 1975; legacy of this war as it affected returning veterans and how it shapes our foreign policy today HIST 8 (CR) – U.S. History to 1877: exploration in the history of the United States from the original inhabitants of the North American continent to the end of the Reconstruction period after the American Civil War HIST 9 (CR) – U. S. History Since 1877: history of the United States from the end of the Reconstruction period after the Civil War to the present HIST 11 (CR) – History of Women in America: Pre-Contact 1877: study of the social, cultural, political, and | 3 |
| | HIST 6 (CR) - The Vietnam War: historical background of the events between 1954 and 1975; legacy of this war as it affected returning veterans and how it shapes our foreign policy today HIST 8 (CR) – U.S. History to 1877: exploration in the history of the United States from the original inhabitants of the North American continent to the end of the Reconstruction period after the American Civil War HIST 9 (CR) – U. S. History Since 1877: history of the United States from the end of the Reconstruction period after the Civil War to the present HIST 11 (CR) – History of Women in America: Pre-Contact 1877: study of the social, cultural, political, and economic developments in the United States from the | 3 |
| | HIST 6 (CR) - The Vietnam War: historical background of the events between 1954 and 1975; legacy of this war as it affected returning veterans and how it shapes our foreign policy today HIST 8 (CR) – U.S. History to 1877: exploration in the history of the United States from the original inhabitants of the North American continent to the end of the Reconstruction period after the American Civil War HIST 9 (CR) – U. S. History Since 1877: history of the United States from the end of the Reconstruction period after the Civil War to the present HIST 11 (CR) – History of Women in America: Pre-Contact 1877: study of the social, cultural, political, and economic developments in the United States from the perspective of the American woman from the period prior | 3 3 |
| | HIST 6 (CR) - The Vietnam War: historical background of the events between 1954 and 1975; legacy of this war as it affected returning veterans and how it shapes our foreign policy today HIST 8 (CR) – U.S. History to 1877: exploration in the history of the United States from the original inhabitants of the North American continent to the end of the Reconstruction period after the American Civil War HIST 9 (CR) – U. S. History Since 1877: history of the United States from the end of the Reconstruction period after the Civil War to the present HIST 11 (CR) – History of Women in America: Pre-Contact 1877: study of the social, cultural, political, and economic developments in the United States from the perspective of the American woman from the period prior to European contact through the end of Reconstruction | 3 |
| | HIST 6 (CR) - The Vietnam War: historical background of the events between 1954 and 1975; legacy of this war as it affected returning veterans and how it shapes our foreign policy today HIST 8 (CR) – U.S. History to 1877: exploration in the history of the United States from the original inhabitants of the North American continent to the end of the Reconstruction period after the American Civil War HIST 9 (CR) – U. S. History Since 1877: history of the United States from the end of the Reconstruction period after the Civil War to the present HIST 11 (CR) – History of Women in America: Pre-Contact 1877: study of the social, cultural, political, and economic developments in the United States from the perspective of the American woman from the period prior to European contact through the end of Reconstruction HIST 12 (CR) – History of Women in America: 1877 | 3 3 |
| | HIST 6 (CR) - The Vietnam War: historical background of the events between 1954 and 1975; legacy of this war as it affected returning veterans and how it shapes our foreign policy today HIST 8 (CR) – U.S. History to 1877: exploration in the history of the United States from the original inhabitants of the North American continent to the end of the Reconstruction period after the American Civil War HIST 9 (CR) – U. S. History Since 1877: history of the United States from the end of the Reconstruction period after the Civil War to the present HIST 11 (CR) – History of Women in America: Pre-Contact 1877: study of the social, cultural, political, and economic developments in the United States from the perspective of the American woman from the period prior to European contact through the end of Reconstruction HIST 12 (CR) – History of Women in America: 1877 –Present: study of the social, cultural, political, and | 3 3 |
| | HIST 6 (CR) - The Vietnam War: historical background of the events between 1954 and 1975; legacy of this war as it affected returning veterans and how it shapes our foreign policy today HIST 8 (CR) – U.S. History to 1877: exploration in the history of the United States from the original inhabitants of the North American continent to the end of the Reconstruction period after the American Civil War HIST 9 (CR) – U. S. History Since 1877: history of the United States from the end of the Reconstruction period after the Civil War to the present HIST 11 (CR) – History of Women in America: Pre-Contact 1877: study of the social, cultural, political, and economic developments in the United States from the perspective of the American woman from the period prior to European contact through the end of Reconstruction HIST 12 (CR) – History of Women in America: 1877 –Present: study of the social, cultural, political, and economic developments in the United States from the | 3 3 |
| | HIST 6 (CR) - The Vietnam War: historical background of the events between 1954 and 1975; legacy of this war as it affected returning veterans and how it shapes our foreign policy today HIST 8 (CR) – U.S. History to 1877: exploration in the history of the United States from the original inhabitants of the North American continent to the end of the Reconstruction period after the American Civil War HIST 9 (CR) – U. S. History Since 1877: history of the United States from the end of the Reconstruction period after the Civil War to the present HIST 11 (CR) – History of Women in America: Pre-Contact 1877: study of the social, cultural, political, and economic developments in the United States from the perspective of the American woman from the period prior to European contact through the end of Reconstruction HIST 12 (CR) – History of Women in America: 1877 –Present: study of the social, cultural, political, and | 3 3 |

| | Upper Division Coursework | |
|----------------|--------------------------------------------------------------|----|
| | HIST 300 (HSU) – The Era of World War I: setting and | |
| | development; social, economic, and political changes | |
| | wrought by the war | 3 |
| | HIST 301 (HSU) – The Era of World War II: setting and | |
| | development; social, economic, and political impact of total | |
| | war upon modern society | 3 |
| | HIST (HSU) - 305 The American West, 1763-1900: diverse | |
| | American peoples and their frontier experiences between | |
| | the Appalachians and the Pacific Coast | 3 |
| | HIST 369 (HSU) – Age of Jefferson & Jackson: battles | |
| | over constitutional interpretations from 1787 to 1830s; | |
| | development of political parties, social and economic | |
| | reforms, states' rights | 3 |
| | HIST 372 (HSU) – Rise of Modern America, 1877 – 1929: | |
| | industrial and urban growth; rise of big business and big | |
| | government; US as a world power | 3 |
| | HIST 374 (HSU) – Contemporary America, 1929 to the | |
| | Present: impact of depression and war; economic growth | |
| | and political conflict; emergence of US as a superpower | |
| | and affluent society | 3 |
| NCLB | | |
| Authorization | | |
| with 16 upper | | |
| division units | Total | 33 |

Note: The coursework outlined in the chart above is from the College of the Redwoods catalog identified as CR and the Humboldt State University catalog identified as HSU.

There were in insufficient number of lower division units in U.S. History to complete the current supplementary authorization without taking upper division units.